

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 614.1747CD2C	APPLICATION NO. Not Yet Assigned
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)		FIRST NAMED INVENTOR Yasushi SUGAYA et al.	
		FILING DATE March 4, 2002	GROUP ART UNIT Not Yet Assigned

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
<i>u</i>	AA	5,140,456	08/1992	HUBER			
	AB	5,185,826	02/1993	DELAVALUX			
	AC	5,218,608	06/1993	AOKI			
	AD	5,287,216	02/1994	CHIRRAVURI et al.			
	AE	5,541,766	07/1996	MIZRAHI et al.			
	AF	5,764,404	06/09/98	YAMANE et al.			
	AG	5,510,926	04/23/96	BAYART et al.			
	AH	5,812,710	09/22/98	SUGAYA			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO	
<i>u</i>	AJ	EP 0 439 867 B1	06/1994	EUROPE				
<i>u</i>	AK	JP 4-149525	5/1992	JAPAN				


OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>u</i>	AL	Hiroo KANAMORI; "OPTICAL COMPONENTS AND FIBER TECHNOLOGIES FOR ERBIUM-DOPED FIBER AMPLIFIER", Fourth Optoelectronics Conference (OEC '92) Technical Digest 1992.
	AM	M. HAMADA et al.; "CHARACTERISTICS OF FUSION SPLICE OF Er ³⁺ -DOPED FIBER FOR OPTICAL AMPLIFIER", Fourth Optoelectronics Conference (OEC '92) Technical Digest 1992.
	AN	C. R. Giles et al.; "DYNAMIC GAIN EQUALIZATION IN TWO-STAGE FIBER AMPLIFIERS"; Optical Amplifiers and Their Applications; Technical Digest 1990, Series Volume 13, MD2 48-51.
	AO	T. Kakinuma et al.; "GAIN AND NOISE CHARACTERISTICS OF ER-DOPED FIBER AMPLIFIERS WITH DIFFERENT PUMPING DIRECTIONS"; Optical Amplifiers and Their Applications; Technical Digest 1990, Series Volume 13, TuB1 126 - 129.
	AP	M. YOSHIDA et al.; "DEVELOPMENT OF COMPACT CHARACTERISTIC OF Er ³⁺ -DOPED FIBER AMPLIFIERS FOR PRACTICAL APPLICATIONS"; Optical Amplifiers and Their Applications; Technical Digest 1990, Series Volume 13; WDI 281 - 285.
<i>u</i>	AQ	K. SUZUKI et al.; "HIGH-GAIN ERBIUM-DOPED FIBER AMPLIFIER PUMPED BY 820 nm GaAlAs LASER DIODES"; Optical Amplifiers and Their Applications; Technical Digest 1990, Series Volume 13, MB4 20 - 23.

EXAMINER NELSON MOSKOWITZ	DATE CONSIDERED <i>6/02</i>
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 614.1747CD2C	APPLICATION NO. Not Yet Assigned
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)		FIRST NAMED INVENTOR Yasushi SUGAYA et al.	
		FILING DATE March 4, 2002	GROUP ART UNIT Not Yet Assigned

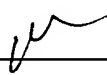

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AR	5,537,244	07/16/96	FUKUSHIMA, et al.			
	AS						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	AT						

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)




	AU	B. MIKKELSEN et al.; "HIGH RECEIVER SENSITIVITY AT 2.5 Gb/s OBTAINED WITH A HIGHLY EFFICIENT LOW NOISE DIODE PUMPED ERBIUM-DOPED FIBER AMPLIFIER"; Optical Amplifiers and Their Applications; Technical Digest 1991, Series Volume 13, FA4-1 192 - FA4-4 195.
	AV	H. TAKENAKA et al.; "COMPACT SIZE AND HIGH OUTPUT POWER Er-DOPED FIBER AMPLIFIER MODULES PUMPED WITH 1.48μm MQW LDs"; Optical Amplifiers and Their Applications; Technical Digest 1991, Series Volume 13, FD2-1 254 - FD2-4 257.
	AW	A. WADA et al.; "HIGH-EFFICIENCY ERBIUM-DOPED FIBER AMPLIFIERS USING MODE FIELD DIAMETER ADJUSTING TECHNIQUE"; Optical Amplifiers and Their Applications; Technical Digest 1991, Series Volume 13, FD3-1 257 - FD3-4 261.
	AX	D. TANAKA et al.; "73.6km ATTENUATION FREE CONCATENATED FIBERS DOPED WITH DISTRIBUTED ERBIUM"; Optical Amplifiers and Their Applications; Technical Digest 1991, Series Volume 13, ThD4-1 156 - ThD4-4 159.
	AY	G. R. JACOBOWITZ-VESELKA et al.; "SINGLE-STAGE BOOSTER AMPLIFIER WITH TWO 980 nm PUMPS STABILIZED BY FIBER GRATING"; Optical Amplifiers and Their Applications; Technical Digest 1995, Series Volume 18; FC4-1 162 - FC4-4 165.
	AZ	Y. TASHIRO et al.; "HIGH POWER ERBIUM-DOPED OPTICAL FIBER AMPLIFIER"; The Institute of Electronics, Information and Communication Engineers; Technical Report of IEICE, OCS95-86 (1995-10), pgs. 67-72.

EXAMINER	NELSON MOSKOWITZ PRIMARY EXAMINER	DATE CONSIDERED	6/02
----------	--------------------------------------	-----------------	------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 614.1747CD2C	APPLICATION NO. Not Yet Assigned
LIST OF REFERENCES CITED BY APPLICANT <i>(Use several sheets if necessary)</i>		FIRST NAMED INVENTOR Yasushi SUGAYA et al.	
		FILING DATE March 4, 2002	GROUP ART UNIT Not Yet Assigned

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)




	BA	M. SHIMIZU et al.; "HIGH SATURATING OPERATION OF 0.98 μ m LASER DIODE PUMPED ERBIUM-DOPED FIBER AMPLIFIERS"; The Institute of Electronics, Information and Communication Engineers; Proceedings of the 1991 IEICE Fall Conference, Tamagawa University, pg. 4-239. (English Language Translation of Section 2)
	BB	K. OOSONO et al.; "RELIABILITY STUDY OF ER-DOPED OPTICAL FIBER"; The Institute of Electronics, Information and Communication Engineers; Proceedings of the 1992 IEICE Fall Conference, Tokyo Institute of Technology, pg. 4-282. (English language translation of Section 2 and Table 1)
	BC	K. OOSONO et al.; "STUDY OF HIGH OUTPUT POWER ER-DOPED FIBER AMPLIFIER"; The Institute of Electronics, Information and Communication Engineers; Proceedings of the 1992 IEICE Fall Conference, Tokyo Institute of Technology, pg. 4-283. (English language translation of Section 2)
	BD	K. TAKANO et al.; "AN OPTICAL PRE-AMPLIFIER WITH AUTOMATIC GAIN CONTROL FUNCTION"; The Institute of Electronics, Information and Communication Engineers; Proceedings of the 1995 IEICE GENERAL Conference, Fukuoka Institute of Technology, pg. 513. (English language translation of Section 2)
	BE	Youichi FUKADA, et al.; "GAIN-BANDWIDTH AND NOISE-FIGURE MEASURING TECHNIQUE ON AN OPTICAL IN-LINE AMPLIFIER"; Technical Report of IEICE; OCS94-69, OPE94-92 (1994-11)
	BF	H. TOBA, et al.; "A 100-CHANNEL OPTICAL FDM TRANSMISSION/DISTRIBUTION AT 622 Mb/s OVER 50 km"; Journal of Lightwave Technology, Vol. 8, No. 9, Sept. 1990; Pages 1396-1401
	BG	J.M. P. DELAUAUX et al.; "HYBRID Er-DOPED FIBER AMPLIFIERS AT 980-1480 nm FOR LONG DISTANCE OPTICAL COMMUNICATIONS"; Electronics Letters 13th Aug. 1992, Vol. 28, No. 17.
	BH	S. G. GRUBB et al.; "ULTRAHIGH POWER DIODE-PUMPED 1.5- μ m FIBER AMPLIFIERS"; OFC '96 Technical Digest Series, Vol. 2; February 25 - March 1, 1996.

EXAMINER	NELSON MOSKOWITZ PRIMARY EXAMINER	DATE CONSIDERED	6/02
----------	--	-----------------	-------------

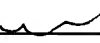




*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 614.1747CD2C	APPLICATION NO. Not Yet Assigned
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)		FIRST NAMED INVENTOR Yasushi SUGAYA et al.	
		FILING DATE March 4, 2002	GROUP ART UNIT Not Yet Assigned



U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	BI	5,225,922	07/1993	Chraplyvy et al.			
	BJ	5,539,563	07/1996	Park			
	BK	5,664,131	09/1997	Sugiya	359	341	09/02/95

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO	
	BL	3-206427	09/1991	Japan			Abstract Only	
	BM	5-241209	09/1993	Japan			Abstract Only	
	BN	7-212315	08/1995	Japan			Abstract Only	
	BO	5-63259	03/1993	Japan			Abstract Only	
	BP	5-107573	04/1993	Japan			Abstract Only	
	BQ							


OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	BR	Y. Sugaya et al., "Experimental Investigation for the Designing of EDFA in WDM Transmission System" PROCEEDINGS OF THE 1995 IEICE GENERAL CONFERENCE B-1098 published on March 10, 1995 (with complete English translation).
	BS	Japanese Publicaiton "Er:Doped Fiber Amplifer for WDM Transmission Using Fiber Gain Control", Technical Report of IEICE, OCS94-66, OPE94, Nov. 1994. (including English language translation)
	BT	


EXAMINER NELSON MOSKOWITZ PRIMARY EXAMINER	DATE CONSIDERED 6/02
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 614.1747CD2C	APPLICATION NO. Not Yet Assigned
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)		FIRST NAMED INVENTOR Yasushi SUGAYA et al.	
		FILING DATE March 4, 2002	GROUP ART UNIT Not Yet Assigned


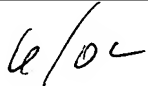
U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	BU	5,050,949	9/24/91	DiGiovanni et al.			
	BV	5,177,634	1/5/93	Way			
	BW	5,239,607	8/24/93	da Silva et al.			
	BX	5,280,383	1/18/94	Federici et al.			
	BY	5,406,404	4/11/95	DiGiovanni et al.			
	BZ	5,430,572	7/4/95	DiGiovanni et al.			
	CA	5,436,760	7/25/95	Nakabayashi			
	CB	5,497,264	3/5/96	Bayart et al.			
	CC	5,506,724	4/9/96	Shimizu et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO	
	CD	5-63259	03/1993	Japan			Abstract Only	
	CE							
	CF							

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	CG ✓	Sagaya et al., "Novel configuration for low-noise and wide-dynamic-range Er-doped fiber amplifier for WDM systems, "OAA '95 paper FC3, June 16, 1995, 4 pages.
EXAMINER	NELSON MOSKOWITZ PRIMARY EXAMINER	DATE CONSIDERED 
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>		

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 614.1747CD2C	APPLICATION NO. Not Yet Assigned
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)		FIRST NAMED INVENTOR Yasushi SUGAYA et al.	
		FILING DATE HMarch 4, 2002	GROUP ART UNIT Not Yet Assigned

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

u	CH	✓	Y. Sugaya et al., "Configuration Design of Multi-wavelength Er-doped Fiber Amplifier for WDM Transmission System" TECHNICAL REPORT OF IEICE OCS95-36, published on July 26, 1995. (with complete translation)
9	CI	✓	Y. Sugaya et al., "Novel Configuration For Low-Noise and Wide-Dynamic-Range Er-Doped Fiber Amplifier For WDM Systems" OAA '95, FC3 (1995).
	CJ		S.F. Su et al., "Gain Equalization in Multiwavelength Lightwave Systems Using Acoustooptic Tunable Filters" IEEE Photonics Technology Letters, Vol. 4, No. 3, March 1992.
	CK	✓	H. Toba et al., "A 100-Channel Optical FDM Six-Stage In-Line Amplifier System Employing Tunable Gain Equalizers" IEEE Photonics Technology Letters, Vol. 5, No. 2, February 1993.
	CL		H. Miyata et al., "Dispersion Compensation Design for 10-Gb/s 16-Wave WDM Transmission System Over Standard Single-Mode Fiber" Technical Report of IEICE, OCS95-34 (1995-07) (Translation of Abstract).
	CM		Y. Nakabayashi et al., "Er:Doped Fiber Amplifier for WDM Transmission Using Fiber Gain Control" Technical Report of IEICE, OCS94-66, OPE94-89 (1994-11) (Translation of Abstract).
	CN		M. Suyama et al., "2.5 Gb/s, 4 Channel WDM Transmission Over 1060 km Using EDFAs With Suppressed Gain Bandwidth Narrowing", OAA '93, pgs. 126-129.
	CO		V.L. da Silva et al., "Automatic Gain Flattening in Er-Doped-Fiber Amplifiers" OFC/IOOC '93 Technical Digest, pgs. 174-175.
	CP		T. Sugawa et al., "Optical Amplification in Er ³⁺ -Doped Single-Mode Fluoride Fiber" IEEE Photonics Technology Letters, Vol. 2, No. 7, July 1990.
	CQ		M. Shigematsu et al., "120 Channel AM-VSB Signal Transmission by 2 Wavelength Multiplexing Through Gain Flattened Hybrid Erbium-Doped Fiber Amplifier" OAA '95, ThB3-1, pgs. 13-16.
	CR		C. R. Giles et al., "Dynamic Gain Equalization in Two-Stage Fiber Amplifiers", IEEE Photonics Technology Letters, Vol. 2, No. 12, December 1990.
	CS		S. Yoshida et al., "Common Amplification Characteristics of EDFA With High Aluminium Concentration For Wavelength-Division-Multiplexed Signal" Technical Report of IEICE, CS95-43, OCS95-9 (1995-06).
✓	CT		T. Kashiwada et al. "Spectral Gain Behavior of Er-Doped Fiber With Extremely High Aluminum Concentration" OAA '93, pgs. 104-107.

EXAMINER

NELSON MOSKOWITZ
PRIMARY EXAMINER

DATE CONSIDERED

6/0-

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 614.1747CD2C	APPLICATION NO. Not Yet Assigned
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)		FIRST NAMED INVENTOR Yasushi SUGAYA et al.	
		FILING DATE March 4, 2002	GROUP ART UNIT Not Yet Assigned

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
<i>u</i>	CU	5,745,276	04/1998	Ho et al.	359	189	
<i> </i>	CV	5,801,858	09/1998	Roberts et al.	359	114	
<i> </i>	CW	4,644,145	02/1987	Gundner	359	141	
<i> </i>	CX	5,436,760	07/1995	Nakabayashi	359	341	
<i> </i>	CY	5,253,104	10/1993	Delavaux	359	341	
	CZ						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO	
<i>u</i>	DA	4-3029	01/1992	Japan			X	
<i>u</i>	DB	2 244 595	12/1991	Great Britian				
	DC							

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>u</i>	DD	Chraplyvy et al., "Equalization in Amplified WDM Lightwave Transmission Systems," IEEE Photonics Tech. Letters, Vol. 4, #8, pp. 920-2, August 1992.
<i>u</i>	DE	Desurvire, E., "Erbium-Doped Fiber Amplifier, Principles and Applications," publ. John Wiley & Sons, Inc., ISBN 0-471-58977-2; Fiber Amplifiers, pp. 480-487.
<i>u</i>	DF	Kashiwada et al., OFC '95, vol. 8, 3/3/95, pages 77-78.
<i>u</i>	DG	Giles et al., "Dynamic Gain Equalization in Two-Stage Fiber Amplifiers," IEEE Photonics Tech. Letters, Vol. 2, #12, 12/90, pp. 866-869.

EXAMINER NELSON MOSKOWITZ PRIMARY EXAMINER	DATE CONSIDERED <i>4/02</i>
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	